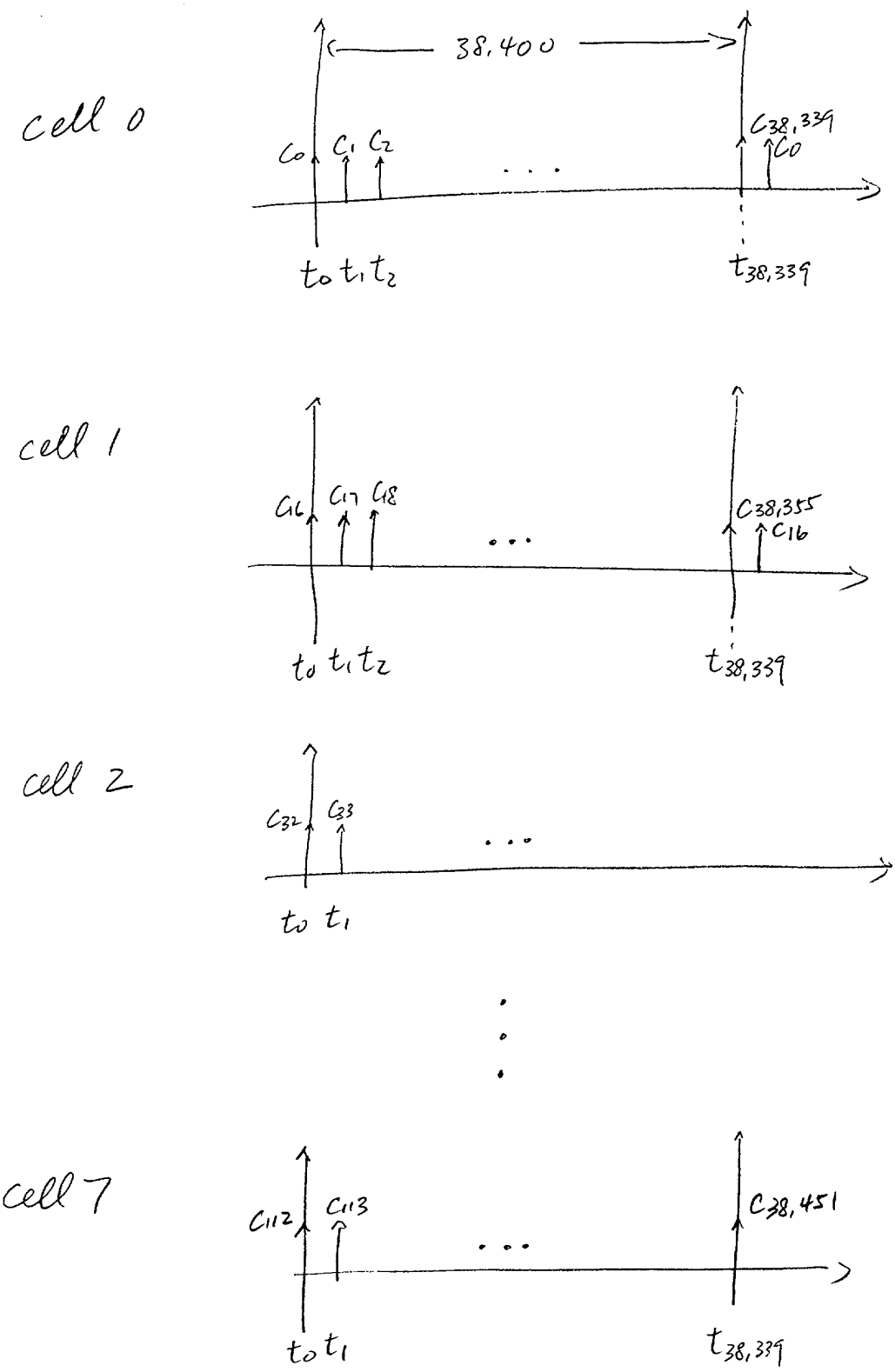
cell 0
38,400
C_0
C_1
C_2
$C_{38,339}$
C_0
t_0 t_1 t_2
$t_{38,339}$
cell 1
C_{16}
C_{17}
C_{18}
$C_{38,355}$
C_{16}
t_0 t_1 t_2
$t_{38,339}$
cell 2
C_{32}
C_{33}
t_0 t_1
cell 7
C_{112}
C_{113}
$C_{38,451}$
t_0 t_1
$t_{38,339}$

Fig. 1

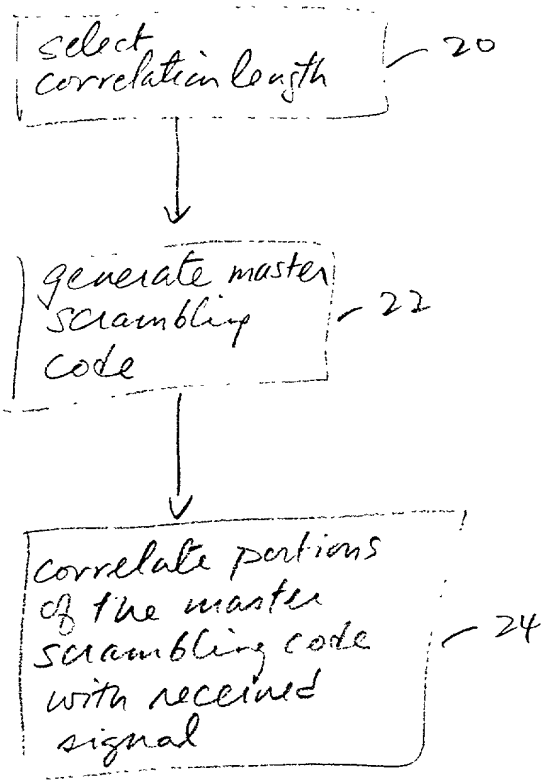
select correlation length
20
generate master scrambling code
22
correlate portions of the master scrambling code with received signal
24

Fig. 2

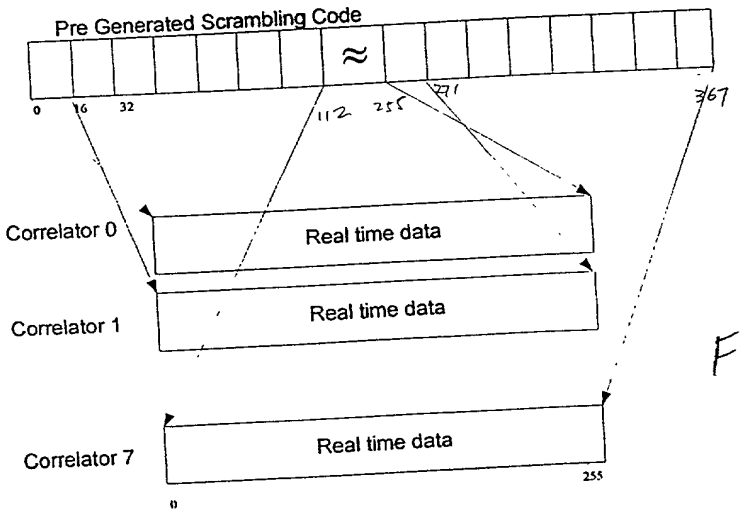
Pre Generated Scrambling Code
0
16
32
112
255
271
367
Correlator 0
Real time data
Correlator 1
Real time data
Correlator 7
Real time data
255
0

Fig. 3

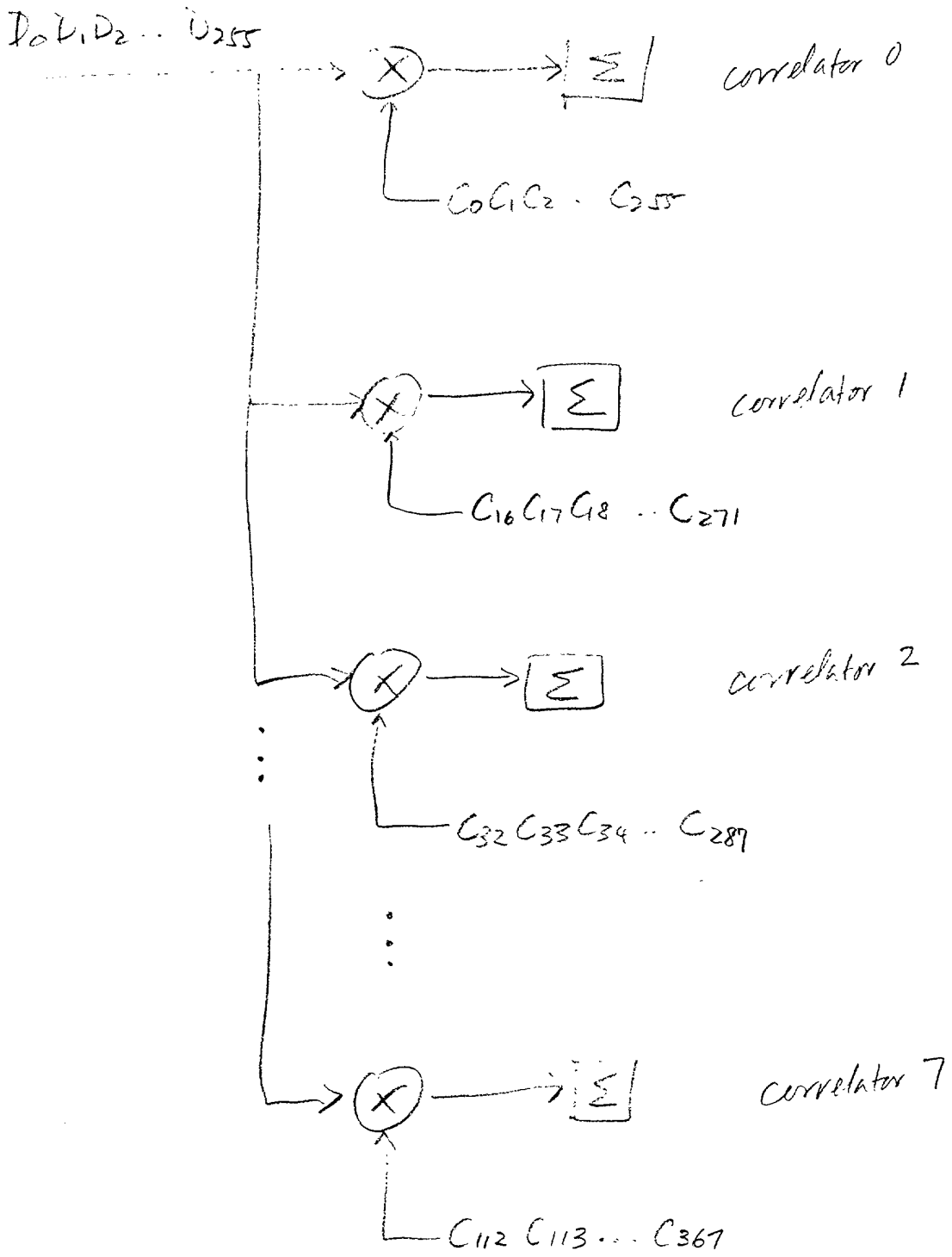
D0 D1 D2 .. D255
correlator 0
C0 C1 C2 . C255
correlator 1
C16 C17 C18 .. C271
correlator 2
C32 C33 C34 .. C287
correlator 7
C112 C113 ... C367

Fig. 4

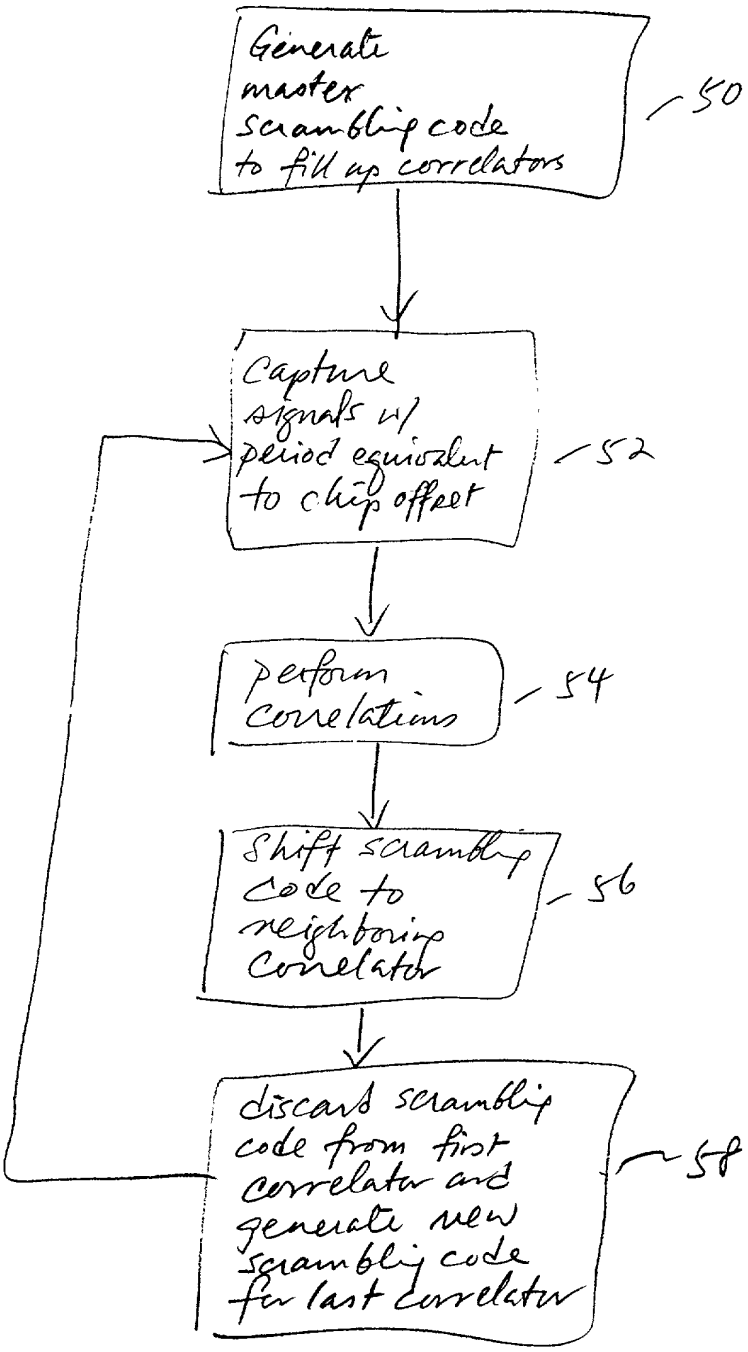
Generate master scrambling code to fill up correlators
50
Capture signals w/ period equivalent to chip offset
52
perform correlations
54
Shift scrambling code to neighboring correlator
56
discard scrambling code from first correlator and generate new scrambling code for last correlator
58

Fig. 5

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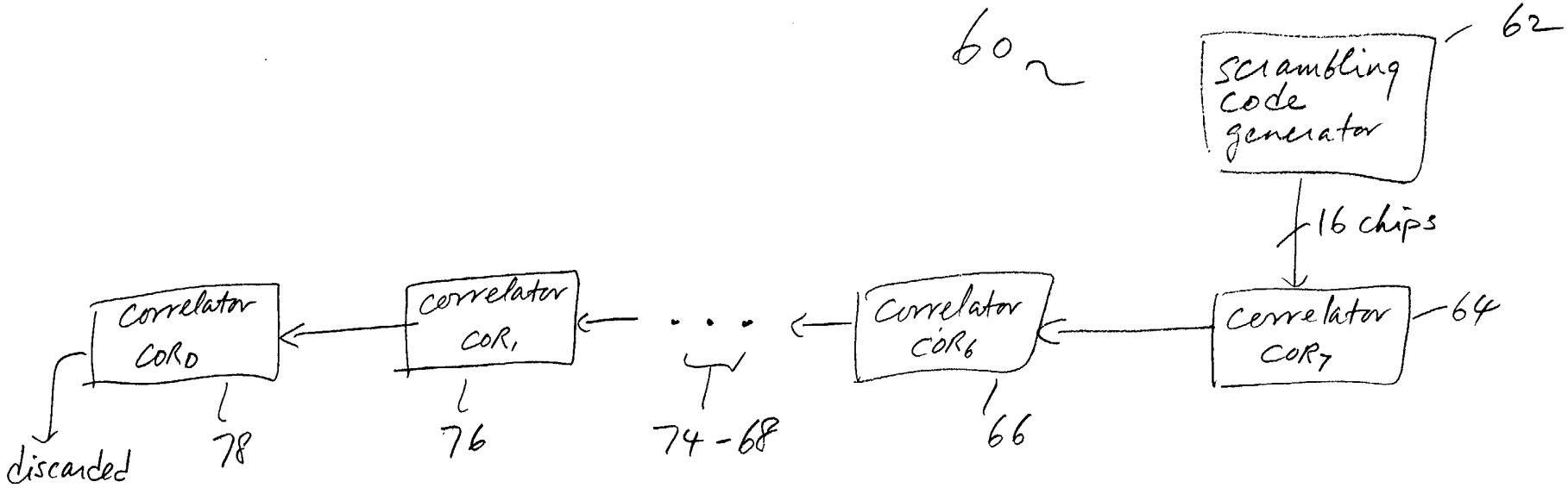

Fig. 6

Correlation results between

$D_0 \rightarrow D_{255}$ and $C_0 \rightarrow C_{255}$

$C_{16} \rightarrow C_{271}$

$C_{32} \rightarrow C_{287}$

$\vdots$

$C_{112} \rightarrow C_{367}$

$\Downarrow$

$$D_0C_0 + D_1C_1 + D_2C_2 + \ldots + D_{255}C_{255}$$
$$D_0C_{16} + D_1C_{17} + D_2C_{18} + \ldots + D_{255}C_{271}$$
$$D_0C_{32} + D_1C_{33} + D_2C_{34} + \ldots + D_{255}C_{287}$$
$$\vdots$$
$$D_0C_{112} + D_1C_{113} + D_2C_{114} + \ldots + D_{255}C_{367}$$

Fig. 7a

Correlation results between

$D_0 \rightarrow D_{15}$ and $C_0 \rightarrow C_{15}$

$C_{16} \rightarrow C_{31}$

$C_{32} \rightarrow C_{47}$

$\vdots$

$C_{112} \rightarrow C_{127}$

$\Downarrow$

$$D_0C_0 + D_1C_1 + D_2C_2 + \ldots + D_{15}C_{15}$$
$$D_0C_{16} + D_1C_{17} + D_2C_{18} + \ldots + D_{15}C_{31}$$
$$D_0C_{32} + D_1C_{33} + D_2C_{34} + \ldots + D_{15}C_{47}$$
$$\vdots$$
$$D_0C_{112} + D_1C_{113} + D_2C_{114} + \ldots + D_{15}C_{127}$$

Fig. 7b